

04/30/02

PATENT APPLICATION



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS AND INTERFERENCES

Appeal Number

RECEIVED
AUG 08 2002
GROUP 3600

In re Application of : Roger MASSEY
Serial no. : 09/585,222
Filed : June 1, 2000
For : BAR-STOCK BALL VALVE
Group Art Unit : 3754
Examiner : D. Austin Bonderer
Docket : GEMVAL P15AUS

APPELLANT'S BRIEF

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TECHNOLOGY CENTER R3700

04/30/2



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The Hon Commissioner of Patents and Trademarks
Washington, D.C. 20231

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TECHNOLOGY CENTER R3700

Dear Sir:

This Appeal Brief is being filed in support of Appellant's Notice of Appeal mailed on March 1, 2002 because of the final rejection of claims 1-3 and 5-8 issued by the Primary Examiner.

1. REAL PARTY IN INTEREST: The real party in interest is: Parker and Harper Companies, Inc.

2. RELATED APPEALS AND INTERFERENCES: There are no related appeals or interferences in respect of the instant or any related patent application.

3. STATUS OF CLAIMS: Presently claims 1-3 and 5-8 are pending and presented for appeal, and the remaining claim 4 has been canceled. Claims 1-3 and 5-8 stand rejected by the Examiner and are set forth in the Appendix A attached hereto.

4. STATUS OF AMENDMENTS: The Appellant filed a Response on December 21, 2001 including an amendment to claim 6 and submitting arguments pertaining to the anticipation and obviousness rejections of the pending claims, mailed under a December 21, 2001 Certificate of Mailing date.

No further amendment has been entered or filed subsequent to the February 2, 2002 Official Final Action.

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GROUP 3600

5. SUMMARY OF INVENTION:

The present invention relates to improvements in barstock valve technology, namely to barstock body valves and the size of barstock required for a given application, and particularly to the size and weight reduction achievable through eccentric (or off-center) machining of the barstock to create the valve body's flow passage. An eccentrically located flow passage results in a thinner wall portion and a thicker wall portion adjacent to the flow passage, and an initially smaller barstock size while allowing for a standard stem port or bottom flow port to be accommodated in the thicker wall portion.

6. ISSUES: The issues presented for appeal are as follows:

(a) Whether claims 1 and 5 are anticipated by U.S. Patent No. 4,280,526 to Gonzalez for LOCKABLE END PLUG FOR VALVE HOUSING, hereinafter referred to as Gonzalez '526; and whether an element of a claim is disclosed by a conflicting, inaccurate drawing unsupported by any written description to the claimed element in the applied reference.

(b) Whether claims 1, 2, 3 and 5 are unpatentable under 35 U.S.C. § 103(a) over Gonzalez '526 in view of U.S. Patent No. 3,345,032 to Rawstron for a THREE WAY BALL VALVE, hereinafter referred to as Rawstron '032; whether the applied references are properly combinable, whether an eccentric bore in a barstock valve is known in the art; whether it is an obvious matter of design choice to form an eccentric flow passage in barstock; whether the eccentricity of the flow passage lacks the criticality necessary to make it an essential part of the invention and whether it would have been obvious to one of ordinary skill in the art at the time of the invention to provide Gonzalez '526 with a stem port (claim 2) or a third flow path (claim 3) in the thickest wall portion resulting from the eccentric flow passage.

(c) Whether claim 6 is unpatentable under 35 U.S.C. § 103(a) over Gonzalez '526 in view of Rawstron '032 and whether defining an eccentric bore axis in barstock is known in the art; whether it is an obvious matter of design choice to machine an eccentric flow passage, and whether the eccentricity of the flow passage in barstock lacks the criticality necessary to make it an essential part of the invention; whether it would have been

obvious to one of ordinary skill in the art at the time of the invention to provide Gonzalez '526 with a valve stem bore in the barstock outer wall located a maximum distance from the bore's axis and accommodating a standard size valve stem in the valve stem bore.

(d) Whether claim 7 is unpatentable under 35 U.S.C. § 103(a) over Gonzalez '526 in view of Rawstron '032 in a two port fluid control valve; whether an eccentric bore in a barstock valve body is known in the art; and whether it is an obvious matter of design choice to form an eccentric flow passage, and whether the eccentricity of the flow passage lacks the criticality necessary to make it an essential part of the invention and whether Rawstron '032 teaches placement of the valve stem in the thickest portion of the barstock valve.

(e) Whether claim 8 is unpatentable under 35 U.S.C. § 103(a) over Gonzalez '526 in view of Rawstron '032, in a three port fluid control valve whether an eccentric bore in a barstock valve body is known in the art; whether it is an obvious matter of design choice to form an eccentric flow passage, and whether the eccentricity of the flow passage lacks the criticality necessary to make it an essential part and whether Rawstron '032 teaches placement of a third flow port through the thicker portion of the valve body walls and the placement of the valve stem in the thinnest portion of the valve.

7. GROUPING OF CLAIMS: Claims 1 and 6, 7 and 8 are written in independent form. The remaining claims 2, 3 and 5 are written in dependent form and depend either directly or indirectly from independent claim 1. All of the pending claims are apparatus claims except claim 6 which is a method claim.

Group I: independent claim 1 and corresponding dependent claim 5 are believed patentable under grounds for rejection (a). The claims of Group I stand or fall with the allowability of claim 1.

Group II: claims 1, 2 and 3 are believed separately patentable under grounds for rejection (b) of claims 1, 2, 3 and 5. The claims 1, 2 and 3 of Group II do not stand or fall together.

Group III: independent claim 6 is believed patentable under grounds for rejection (c).

Group IV: independent claim 7 is believed patentable under grounds for rejection (d).

Group V: independent claim 8 is believed patentable under grounds for rejection (e).

8. ARGUMENTS - Rejections Under 35 U.S.C. 102:

(a) It is the Appellant's belief that the anticipation rejection of claims 1 and 5 under 35 U.S.C. § 102 in view of Gonzalez '526 is in error for the following reasons.

Gonzalez '526 relates specifically to a lockable end plug for valve housings. As related in the Background of the Invention, Gonzalez '526 at col. 1, lines 5-14, describes that "[i]n the manufacture of ball valves, particularly barstock valves wherein the housing is fabricated of a length of hollow barstock, one common technique employed is to size the internal diameter of the housing at one end thereof so that it is sufficiently large to permit the ball and one or more seats to be inserted in sequence into the housing via said one end, whereafter the inserted elements are held in place by a hollow cylindrical end plug which is screwed into the housing opening through which the ball and seat were inserted." The function and structure of Gonzalez's end plug has relevance solely in the context of ensuring that the ball, of the ball valve, is adequately seated and retained within the valve body. Neither the end plug, the housing in which it is inserted, nor the relative disclosure in the applied reference is pertinent in any manner to the novel aspects of the Appellant's presently claimed invention, namely the eccentrically located flow ports and throughbore.

The outstanding anticipation rejection set forth in paragraph 2 of the Final Official Action indicates that Fig. 2 of Gonzalez '526 discloses (1) a ball valve comprising a valve body 10 made of barstock; (2) an eccentric flow passage; and (3) a quarter turn valve 11. The Appellant has made a thorough study of Gonzalez '526, particularly Figs. 1 and 2 as well as the detailed description, and can find no disclosure, either in the drawings or the written description, relating at least to ".....a through machined main flow port located eccentrically on said inlet and said outlet ends.....", as specifically recited in claim 1.

Valves that feature bodies machined from either hot or cold drawn metal bar, having either circular cross sections or sections formed as regular polygons, are commonly referred to as "barstock" valves. Barstock valve bodies are particularly amenable to production on high speed automatic machines and, therefore, offer economies in manufacture not enjoyed by manufacturers of cast and forged valves.

Traditional barstock valve bodies place the flow passage along the central axis of the bar. The starting bar size can be chosen based on the required wall thickness, following machining, necessary to withstand the highest operating pressures to which the valve is exposed to in service. The desirability of using a standard size valve stem also influences the bar size as well as the choice of end connections, especially in a three way valve, also plays a role in the required wall thickness and the sizing of the initial barstock. Due to the fact that the entirety of the barstock valve walls are not always subjected to the required operating pressure, and that thicker valve walls are necessary to effect support of the valve stem and proper end connections with communicating pipes, the bar size traditionally used is often overly sufficient for the wall thickness requirements of the valve.

This over-design of the valve body frequently results from the need to provide adequate valve stem bearing support and adequate space for stem seals. To accommodate these items, the valve designer often selects a larger bar size than necessary for the operating pressure, resulting in increased overall weight and cost of the valve body. Due to the manufacturing techniques used, it is inefficient to place the additionally required material locally in the valve body only where needed. The Appellant's eccentrically located bore permits a resulting thicker barstock wall where necessary and a thinner barstock wall thickness on the valve body where possible.

For example, turning to Appendix B and observing Appellant's Fig. 1, in the case of a two-way valve the Appellant's eccentrically located throughbore allows the standard size valve stem to be used in the resulting thicker barstock wall portion where necessary and a thinner

barstock wall thickness on the valve body opposite the valve stem thus reducing the overall size of the barstock necessary to form the valve body.

As another example, observing Appellant's Fig. 1a, the stem may be placed in the thinner portion of the valve body wall, so that the thicker portion of the barstock wall can accommodate a third flow port connection, again resulting in a smaller initial size of barstock necessary to form the valve. Both examples provide barstock body valves having the size and weight reduction achievable through eccentric (or off-center) machining of the barstock to create the valve body's flow passage or throughbore.

It is the Appellant's position that Fig. 2 of Gonzalez '526, in view of which the novel aspects of the Appellant's invention is allegedly anticipated, is an incorrect and inoperative disclosure. Further, assuming arguendo that Fig. 2 is not fatally defective and maintains some relevance with respect to Gonzalez's disclosure, that neither Fig. 2, nor Gonzalez's disclosure implicates the specifically claimed features of the Appellant's invention as required by case law.

Observing Fig. 1 of the Gonzalez '526 reference shown in Appendix C, a detailed end view of the valve housing 10, the lockable end plug 22 and the opening 21 to a central bore, (not individually labeled) is shown. The opening 21 is clearly disclosed as formed directly in the center of the valve body 10a. Defined concentrically about the opening 21 is the end plug 22, and respectively spaced equidistant, i.e., concentrically, about the opening 21 and end plug 22 are the equally dimensioned hexagonal valve body walls (not individually labeled) of the valve body 10a. Section line 2-2 is drawn in Fig. 1 down the center of the end view, apparently to indicate the cross sectional view in Fig. 2 of Gonzalez '526. However, the Appellant believes the cross-sectional representation of Fig. 1, by Fig. 2 is an incorrect cross-section of the disclosed valve.

In Fig. 2, section line 2-2 is shown extending vertically down the center of the valve body 10a perpendicularly bisecting the horizontal top and bottom walls of the valve body 10a as well as the opening 21 and end plug 22. At the mid-point of the horizontal top and bottom body walls, where the section line 2-2 bisects these elements, the opening 21 and end plug 22,

are in closest proximity to the sides. In other words, it is at the mid-points of the hexagonal body walls where the valve body walls are equally the thinnest and which should be respectively reflected in Fig. 2.

In order to properly correspond to a correct cross-sectional representation of Fig. 1 along section line 2-2, Fig. 2 should show equal wall dimensions of the thinnest portions of valve body walls. This however, is not the case. The most apparent transgression from the section line 2-2 is that the outer wall of the lower portion of the valve body 10a in Fig. 2 has a distinctly larger protrusion P than the upper portion ρ of the valve body 10a. This is clearly indicative that the actual view shown in Fig. 2 is not along line 2-2, but is an asymmetrical cross-section through a lower portion of the valve body.

This asymmetrical cross-section of Fig. 2 indicates a thicker wall portion relative to the upper portion of the valve body cross-section. This is not because an eccentric bore is disclosed, but due to the fact that the cross-sectional view of the lower portion of the valve body 10a is actually shown extending through the apex of adjoining edges of adjacent hexagonal sides of the valve body 10a where the valve body walls are thicker, for example along the line 2' as shown in red in the supplemental Fig. 1 of Appendix C. The Appellant believes that the larger protrusion P on the bottom portion of the valve body 10a is confirmation of such an asymmetrical cross-section.

The Appellant also notes in supplemental Fig. 2 in Appendix C that the cross-hatching indicating the cross-section portion of the valve body 10a is different between the upper portion of the valve body 10a adjacent the valve stem 14 and the lower portion of the valve body 10a. According to 37 C.F.R. 1.84, (3) Sectional Views, "Different types of hatching should have different conventional meanings as regards the nature of a material seen in cross section." The spacing between the hatching of the top portion is approximately 2.5 mm, while the spacing between the hatching of the lower portion of the valve body 10a is about 4mm, this convention should actually indicate different materials which cannot be the case as the valve body is formed from the same material. An accurate cross-section along section line 2-2 should show the same

hatching by regularly spaced oblique parallel lines of the same thickness as required under 37 C.F.R. 1.84. Thus, the Appellant believes this to be additional evidence that the Fig. 2 is an improper cross-section and thus it cannot be interpreted to disclose any subject matter of relevance with respect to the Appellant's presently claimed invention.

According to case law, an appropriate anticipation rejection under 35 U.S.C. § 102, must be supported by a prior art reference which discloses each and every element of the Appellant's claimed invention. Fig. 2 does not show an eccentrically located flow path. Even assuming for purposes of discussion that Fig 1. and Fig. 2 can be reconciled to properly show the valve as disclosed by Gonzalez '526, there is still no disclosure in Fig. 2 of an eccentrically located flow path, merely an asymmetrical cross-section as shown through a thicker section of the valve body wall.

Because claim 5 is dependent upon claim 1 which is believed allowable in view of the above remarks, the Appellant believes claim 5 to be allowable as well and respectfully requests withdrawal of the anticipation rejection under 35 U.S.C. § 102.

9. ARGUMENTS - Rejections Under 35 U.S.C. § 103(a) :

(a) It is the Appellant's belief that the obviousness rejection of claims 1, 2, 3 and 5 under 35 U.S.C. § 103(a) based on Gonzalez '526 in view of Rawstron 032 is in error for the following reasons.

It is alleged in the Final Official Action that an eccentric bore is extremely well known in the art, and that it is deemed an obvious matter of design choice to make a flow passage eccentric. The Appellant is a manufacturer of valves and respectfully disagrees with this position. Furthermore, no evidence in any form, documentary, official notice nor affidavit has been produced to support such an allegation. The Appellant particularly believes that where a feature is stated to be extremely well known, it is not unreasonable that some objective evidence indicating as such could be cited or produced so that the Appellant could provide suitable contradictory evidence.

It is also alleged that the eccentric bore lacks criticality to make it an essential part of the invention. As best understood, this argument relates specifically to enablement under 35 U.S.C. § 112, first paragraph, rather than obviousness. To be fully responsive however, the Appellant notes that the Appellant's specification refers innumerable times to the eccentric and offset bore as specifically recited in the pending claims. As an example, on page 2 of the Appellant's specification lines, 6-9 "Wherefore, it is an object of the present invention to overcome the aforementioned problems associated with standard barstock body valves by machining the primary passage of the valve eccentrically (off-centerline) permitting use of initially smaller and lighter barstock material." In addition, the Appellant's specification expressly relates several reasons why the eccentric bore is specifically important, one example being to allow ".....the relative reduction in barstock size achievable to incorporate longer stem 41, by eccentrically boring through port 33" (page 5, lines 23-25).

In rejecting claims under 35 U.S.C. § 103(a), it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073-74, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion, or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 766 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992)

It is well settled that in order to properly combine references, there must be some teaching, suggestion or motivation in the applied references which would lead one of ordinary skill in the art to combine the references as alleged by the Examiner. Primarily, as pointed out in the Appellant's previous response, Rawstron '032 is drawn to a cast valve casing specifically a "casing consisting of two sections secured together by bolts 12 and sealed by an O-ring 13". Such a cast casing is particularly different, as well as significantly more expensive, than utilizing common barstock as shown in both Gonzalez '526 and as claimed in the present invention.

Rawstron '032 is a three-way cast ball valve which encloses the ball and related working parts within a casing which is bolted together. Importantly, due to the bolting of the separate sections in Rawstron '032 there is no need for an end plug as used in barstock ball valves or as disclosed in Gonzalez '526. Further, the Appellant can find nothing in the description of Rawstron '032 which remotely pertains to the use of barstock as in the present invention and in Gonzalez '526. In fact, the use of such a different cast valve body teaches specifically away from the use of barstock to fabricate a valve body.

Gonzalez '526 relates merely to a lockable plug for use in an elongated barstock housing. As set forth above, the use of barstock is particularly different than the use of castings in that if a bolted together casting is used as described in Rawstron '032, there is no necessity for an end plug. It is the Appellant's position that any disclosure in Gonzalez '526 relating to the lockable plug for the barstock valve housing relates to such different devices and separate functions of these respective devices that no person of ordinary skill in the art would, in any manner, combine the two references.

Even if a combination of Rawstron '032 and Gonzalez '526, is proper, and such is adamantly not conceded, the combination still does not show, teach or disclose, either expressly or inherently, the features of the presently claimed invention, most notably as recited in claim 1, "a through machine flow port located eccentrically on said inlet and said outlet ends; wherein said main flow port eccentric location increases the available barstock thickness at one outer wall location and decreases barstock thickness in the opposite wall." A combination of the two

references would merely show the unnecessary use of an end plug with a cast valve housing. Therefore the Appellant believes that claims 1 and 5 are unobvious in view of the cited art and respectfully requests withdrawal of the obviousness rejections.

(b) It is the Appellant's belief that the obviousness rejection of claim 2 under 35 U.S.C. § 103(a) over Gonzalez '526 in view of Rawstron '032 is in error for the following reasons.

The Appellant hereby incorporates by reference the above remarks relative to the knowledge and level of skill in the art, design choice and criticality arguments as well as the continued assertion that the applied references are not combinable as set forth in section (a) of the rejection under 35 U.S.C. § 103(a).

Assuming that the references are combinable, and such is adamantly not conceded hereby, Rawstron '032 does not teach placement of the valve stem in a thicker portion of the valve wall. Fig. 1 of Rawstron '032 discloses essentially four (4) ports and four (4) flanges, three (3) of the ports 14, 15 and 16 are applicable for fluid flow, however it is through the fourth flange and port portion 24 that the valve stem extends to operate the ball 20, not through a thicker wall.

(c) It is the Appellant's belief that the obviousness rejection of claim 3 under 35 U.S.C. § 103(a) over Gonzalez '526 in view of Rawstron '032 is in error for the following reasons.

The Appellant hereby incorporates by reference the above remarks relative to the knowledge and level of skill in the art, design choice and criticality arguments as well as the continued assertion that the applied references are not combinable as set forth in section (a) of the rejection under 35 U.S.C. § 103 (a).

Again assuming that the references are combinable, and such is adamantly not conceded hereby, it is important to understand what such a combination allegedly teaches. Rawstron '032 does not teach placement of the valve stem in a thinner portion of the valve wall. Rawstron '032 is in fact reinforced at the stem support, i.e., via a cast stem port, having a

thicker wall portion where the stem is supported. This is distinctly opposite of the Appellant's invention as recited in claim 3 and as shown in Appellant's Fig. 1a where the barstock body is minimized adjacent the stem and the third or bottom flow port is machined in the thicker portion of the wall. Therefore the Appellant believes that there is not only no teaching, suggestion or disclosure to accomplish the invention as set forth in claim 3, but that if applicable at all, Rawstron '032 teaches specifically away from the features of claim 3 namely ".....wherein, barstock cross-section is minimized adjacent to the stem port."

(d) It is the Appellant's belief that the obviousness rejection of claim 6 under 35 U.S.C. § 103(a) over Gonzalez '526 in view of Rawstron '032 is in error for the following reasons.

The Appellant hereby incorporates by reference the above remarks relative to the knowledge and level of skill in the art, design choice and criticality arguments as well as the continued assertion that the applied references are not combinable as set forth in section (a) of the rejection under 35 U.S.C. § 103 (a).

Most notably the cast valve disclosed in Rawstron '032 is fabricated by an entirely different and substantially more expensive process than barstock of either Gonzalez '526 or the present invention and none of the steps as specifically recited in claim 6 would be utilized in the fabrication of a two part cast valve casing and vice versa.

Additionally, the Appellant can find no teaching or suggestion that would lead a person of ordinary skill in the art to fabricate the valve having the eccentrically positioned throughbore by at least the steps of "..... machining a throughbore in said barstock symmetrically about the offset throughbore axis to produce an eccentrically located throughbore defining a thicker portion and a thinner portion of said barstock outer wall....." and ".....machining a valve stem bore perpendicular to said throughbore in the thicker portion of the barstock outer wall located a maximum distance from said offset throughbore axis.....". In fact, Rawstron '032 is a cast casing which teaches specifically away from machining barstock as a valve body.

Importantly, neither of these references, either alone or in combination disclose or teach the above described method of producing the Appellant's eccentrically positioned bore, thicker and thinner walls and specifically located bore stem.

(e) It is the Appellant's belief that the obviousness rejection of claim 7 under 35 U.S.C. § 103(a) over Gonzalez '526 in view of Rawstron '032 is in error for the following reasons.

The Appellant hereby incorporates by reference the above remarks relative to the knowledge and level of skill in the art, design choice and criticality arguments as well as the continued assertion that the applied references are not combinable as set forth in section (a) of the rejection under 35 U.S.C. § 103 (a).

Claim 7 is a rewritten version of a combination of the subject matter from claims 1 and 2, and is, therefore, believed to over come the obviousness rejection in view of the same remarks in sections (a) and (b) as set forth above with respect to claims 1 and 2.

(f) It is the Appellant's belief that the obviousness rejection of claim 8 under 35 U.S.C. § 103(a) over Gonzalez '526 in view of Rawstron '032 is in error for the following reasons.

The Appellant hereby incorporates by reference the above remarks relative to the knowledge and level of skill in the art, design choice and criticality arguments as well as the continued assertion that the applied references are not combinable as set forth in section (a) of the rejection under 35 U.S.C. § 103 (a).

Similar to claim 3, claim 8 recites a three port valve body having the valve stem located in the thinner section of the eccentrically formed wall across from the thicker section necessary to adequately support the third or bottom port of the three port valve. If anything, as set forth above with respect to dependent claim 3, Rawstron '032 discloses only a valve stem in a thicker portion of the cast valve body. If Gonzalez '526 teaches anything with respect to the nature of a thinner or thicker wall, and again this in not conceded hereby, contrary to Rawstron '032 the valve stem is shown in the apparently thinner portion of the valve wall. The combined

09/585,222

references thus actually teach the opposite from one another. Claim 8 specifically recites that the valve stem is in a thinner portion of the body, and that the third flow port is formed in the thicker portion. This is completely different than either of the applied references alone or in combination. Accordingly, the presently claimed invention is not obvious in view of the applied combination of art.

In view of the foregoing arguments, it is respectfully submitted that this application is not obvious in view of Gonzalez '526 when combined with Rawstron '032 and the raised 35 U.S.C. § 103 rejection based on the same should therefore be withdrawn at this time. Accordingly, reversal of the final rejection of claims 1-3, 5, 6, 7 and 8 is respectfully requested in view of the foregoing and issuance of a Notice of Allowance is now believed in order.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

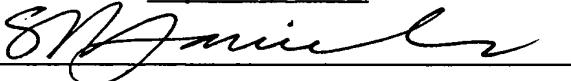
Respectfully submitted,



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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service, with sufficient postage, as First Class Mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on April 30, 2002.

By: 

Print Name: Scott A. Daniels

APPENDIX A

PENDING CLAIMS 1-3 and 5-8

1. A barstock body fluid control valve comprising:

a barstock body of preselected material having an inlet end and an outlet end, and a preselected cross section defining the outer walls;

a through machined main flow port located eccentrically on said inlet and said outlet ends;

wherein said main flow port eccentric location increases the available barstock thickness at one outer wall location and decreases barstock thickness in the opposite wall.

2. The valve according to claim 1 further comprising a machined stem port perpendicular to said flow port positioned at said increased barstock thickness.

3. The valve according to claim 1 further comprising a machined bottom flow port perpendicular to said flow port; a machined stem port centrally aligned with said bottom flow port, said stem port machined through the opposite outer wall of said barstock body; wherein barstock cross section is minimized adjacent to the stem port.

5. The valve according to claim 1 in the form of a quarter turn ball valve.

6. A method of forming a barstock body fluid control valve using reduced barstock size and a standard size valve stem, the method comprising the steps of:

selecting the reduced size barstock having a desired outer wall configuration formed about a longitudinal center line and cutting the reduced barstock size to length;

forming a valve body by machining flat surfaced ends on said reduced barstock size perpendicular to said barstock outer wall;

defining a throughbore axis offset from and parallel to the longitudinal centerline of the barstock;

machining a throughbore in said barstock symmetrically about the offset throughbore axis to produce an eccentrically located throughbore defining a thicker portion and a thinner portion of said barstock outer wall;

machining a valve stem bore perpendicular to said throughbore in the thicker portion of the barstock outer wall located a maximum distance from said offset throughbore axis;

selecting a standard size valve stem to be inserted in the valve stem bore in the thicker portion of the barstock outer wall resulting in the thinner portion of the barstock wall positioned opposite the valve stem; and

installing the standard size valve stem in said valve stem bore.

7. A two port fluid control valve comprising:

a barstock body having outer walls extending between an inlet end and an outlet end defined by a preselected cross section circumscribed about a central longitudinal axis;

a machined through bore extending between the inlet end and the outlet end of the barstock body about an offset longitudinal throughbore axis parallel spaced from the central longitudinal axis,

the through bore is eccentrically located with respect to the outer walls producing a thicker outer wall portion and a relatively thinner opposite wall portion of the barstock body; and

wherein a stem port communicates perpendicularly with said throughbore machined through said thicker outer wall portion of the barstock body.

8. A three port fluid control valve comprising:

a barstock body having outer walls extending between an inlet end and an outlet end defined by a preselected cross section circumscribed about a central longitudinal axis;

a machined through bore extending between the inlet end and the outlet end of the barstock body about an offset longitudinal through bore axis parallel spaced from the central longitudinal axis,

the through bore is eccentrically located with respect to the outer walls producing a thicker outer wall portion and a relatively thinner opposite wall portion of the barstock body;

a machined bottom flow port formed perpendicular to said through bore through the thicker outer wall portion; and

a machined stem port communicates perpendicularly with said throughbore and axially aligned with said bottom flow port, said stem port machined through the thinner opposite wall portion of said barstock body.

APPENDIX B - Appellant's Fig's 1 and 1a

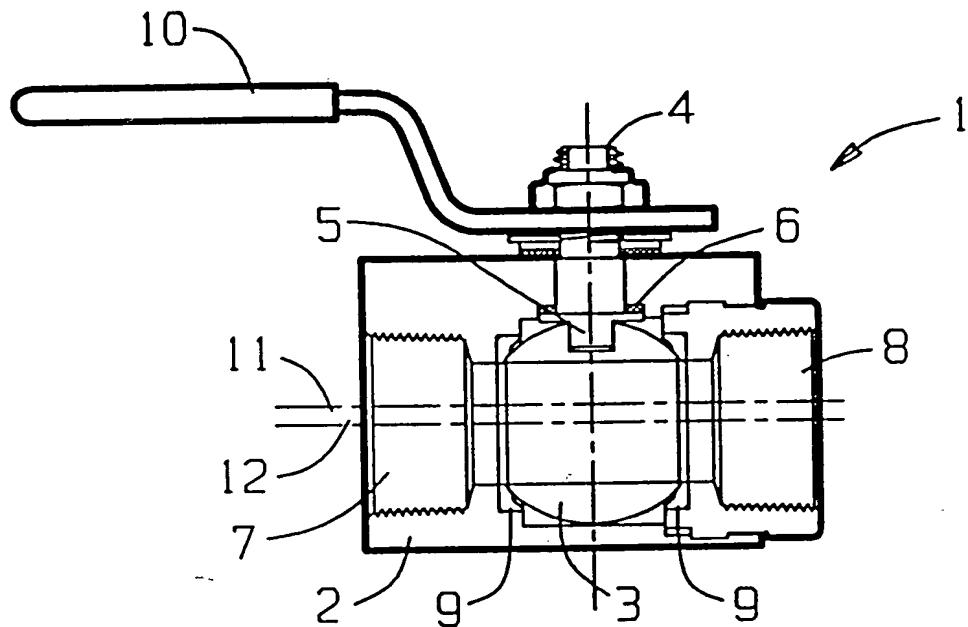


Fig. 1

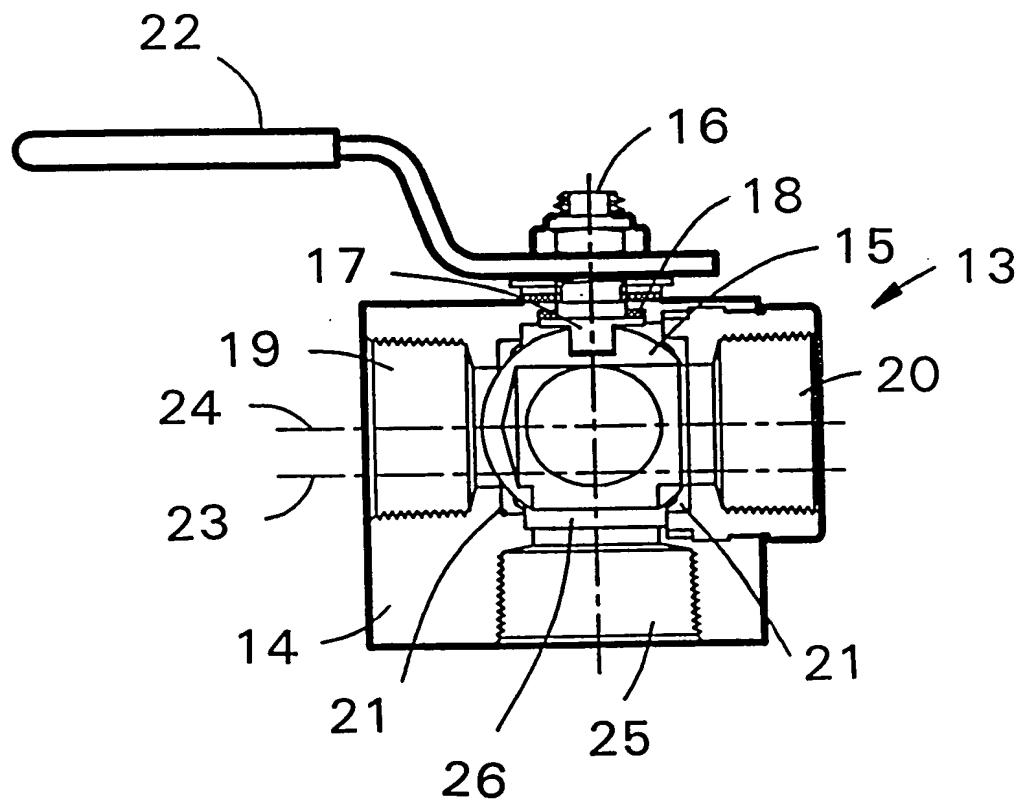


Fig. 1a

APPENDIX C - Gonzalez '526, Supplemental Figs. 1 and 2